Business Case

Project Name: Single Sign-On for Schools Portal

Channel: Schools Channel and the OCIO

Project Sponsor: Kay Jacks

Project Lead: Andy Boots and Yateesh Katyal

Project Description
Describe the need for change (the business problem to be addressed).

Financial Aid Professionals (FAP) need to simplify the number of usernames and passwords they need to remember in order to access SFA systems.   In response to requests from the Electronic Access Conference attendees, OCIO security policy directives, and FAPs, the Schools Channel requests the IRB to fund a baseline Single Sign-On (SSO) authentication service for the SFA program. There is an opportunity here to not only implement a standard authentication service for developers, but also give our FAP customers a more enjoyable experience working with us.

What is the purpose of the initiative?

The SSO Initiative provides Financial Aid Professionals an efficient means to access student financial data housed at SFA. FAPs will have a single username and password to seamlessly access multiple SFA systems. In the future, cost savings can be realized fby a more centralized approach to password and end-user account management. Improved security of the SFA systems will providebetter control for enhancing creating and deleting of users from the systems.

The effort to implement SSO for Schools Portals has resulted from a three-month evaluation of FAP customer interviews, schools portals requirements, SFA systems requirements, and potential Single Sign-On solutions. In order to gauge accurate pricing for this initiative, SFA requirements were sent out in the form of a Modernization Partner sponsored Request for Information (RFI). The responses were reviewed for requirements fulfillment and then used to understand the long-term investment needed to enable the implementation of the Single Sign-On Initiative.

A major factor for success is the ability to make the end goal attainable. This business case focuses on three systems whose architectures that accurately represent the overall SFA systems. The selected systems include RFMS, DLOS, and NSLDS. The Schools Portal was also reviewed to make sure that the FAP's initial gateway could serve as the connector between these disparate systems.   This Single Sign-On Business Case will fund us to build a baseline architecture that includes the above systems which should be scalable in order to include further systems.

What is the scope of the initiative, including what it is not?

The purpose of this initiative is to strengthen security and privacy in SFA by establishing a short-term baseline solution and a scalable authentication platform for future SFA portal applications. This effort has been coordinated with Program Managers, COTRs, Developers, System Security Officers of all affected systems.

Short Term
Schools Portal sign-on enables access into NSLDS, RFMS and DLOS on-line services. While establishing this SSO baseline platform, an evaluation will be conducted of shared authentication databases (Directory Servers) for the participating applications.

The short-term benefits will be the following:
- Single Sign-On for an estimated 13,000 financial aid professional customers
- Reduced configuration and user administration costs (a single authentication engine vs four)
- Stronger security through user management and policy enforcement

Long Term
The results of the baseline Single Sign-On platform deployment will be critically evaluated by Modernization Partner and SFA to determine the viability of scaling these authentication services for the entire Schools Portal user community as well as integration into the Modernization Partner's overall Integrated Technical Architecture (ITA) effort.

The long-term implications will be the following:
- Customer utility will increase
- An overall Single Sign-On authentication service will be developed
- The ease of use for the entire SFA systems infrastructure should increase over time
- Information accessibility across systems will become easier
- Developers will look to a standard reusable sign-on service
- Students will be able to be serviced in a faster and more efficient manner.

Integration with some School Portals applications (FMS) will not be required at this time.

What is the start date and end date of the initiative?

The proposed start date of this project is October 1st, 2001 and projected end date is May 30th, 2002.

What other business areas/external groups are affected by the implementation of this initiative and how are they affected?

Schools – Financial Aid Professionals will participate in a revised and unified registration process, that will reduce the overhead needed for multiple accounts. FAPs will also have easier and more seamless access to SFA systems. It is up to the SSO implementation architects to devise a strategy for assigning global identifiers and passwords.

What systems are impacted by the implementation of this initiative and how are they impacted?
NLSDS, DLOS, RFMS, Schools Portal will be affected by the Single Sign-On authentication service.

The architecture and integration strategy of the Single Sign-On solution will be defined as a product of the proposed task. Stakeholders will evaluate system impacts and the results will be used as input into the selection of the Single Sign-On solution.

What business processes are impacted by the implementation of this initiative and how are they impacted?

The business processes involved in implementing the new solution will be a product of the proposed task. Stakeholders will evaluate business process impacts and the results will be used as input into the selection of the Single Sign-On solution.

Enterprise Impact

What are the impacts on the Enterprise from the implementation of this initiative? (Please detail decisions needed from Department)

The long-term result of the Single Sign-On implementation will be a strategy of deployment for authentication services throughout the enterprise. Once the baseline authentication framework is defined, SFA current and future enterprise applications could be evaluated upon its feasibility for integration. The decision for this integration, however will take place after the baseline implementation has been thoroughly evaluated.

Accessibility

Please indicate how the initiative complies to accessibility guidelines. The Department and SFA's Accessibility Guidelines can be found at the following URL:
http://connected.ed.gov/policies/index.cfm?navID=71C6D478-E6E0-4C0E-B9D1324CFF996047&menuItem=2&subMenuItem=1

Please be sure to comment on this initiatives efforts to meet Section 508 compliance.
Not applicable to the Single Sign-On proposal.

Technologies Used

List the proposed technologies that will be used to implement this project

Name/type	Proposed use	Has technology been used at SFA before? Where?	Does Technology fit SFA's Architecture Standard? Explain.	Does SFA have the technical expertise to implement this technology? Why?
SCHOOLS PORTAL				
HP9000 – V Class	Authentication services brokered by SSO Gateway server	YES. Schools Portal Web Server	YES	YES, expertise in deploying authentication services for Web Portal
Oracle 8i Database At VDC	Schools Portal	YES User Authentication	YES. Portal Architecture Design	YES
SUN ENT 3500	Web Portal interface to SSO Gateway	NO	YES – Single Sign-On requirements For Portal	NO. New service to be deployed at VDC

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LOAN ORIGINATION/Web Server				
HP Servers – L class T600s	Authentication Services	YES Direct Loans Single Sign-on	YES Meets Standards	Yes. SSO for DLOS/DLCS in production.
SSL 128 bit encryption RSA B-Safe	Security for Web	YES	YES	Yes. SFA has internal expertise and contractor support
Informix Authentication Database	Role-Based Authentication	YES Direct Loans Single Sign-on	YES Meets Standards	Yes. SFA has internal expertise and contractor support
RFMS Web Site				
Compaq Proliant Windows NT	Authentication Services	YES	YES	Yes. Credentialling Interface Exists
SQL Server 7	Authentication Services	RFMS On-Line	Meets Standards	Yes. SFA has internal expertise and contractor support
NSLDS Web Site				
Compaq Proliant Windows NT	Authentication Services	YES	YES	Yes. Credentialling Interface Exists
IBM 9672 OS/390	Authentication Services	NSLDS On-Line	Meets Standards	Yes. SFA has internal expertise and contractor support
RACF 4.2.2	Mainframe Security	YES	YES	Yes. SFA has internal expertise and contractor support

Benefits

SSO will provide real cost benefits to an enterprise through:

- Reduction in the time taken by users in sign-on operations to individual domains, including reducing the possibility of such sign-on operations failing

- Improved security through the reduced need for a user to handle and remember multiple sets of authentication information

- Reduction in the time taken, and improved response, by system administrators in adding and removing users to the system or modifying their access rights

- Developers have standard authentication service

Improved security through the enhanced ability of system administrators to maintain the integrity of user account configuration including the ability to inhibit or remove an individual users' access to all system resources in a coordinated and consistent manner

Reduce Unit Cost (HARD DOLLARS)

Quantified Benefit ($)	How will benefit be measured/realized?	When will benefit be realized?
Assumptions		

Increase Customer Satisfaction

Quantified/Qualitative Benefit	How will benefit be measured/realized?	When will benefit be realized?
Financial Aid Professionals will save time and accessing SFA systems - NSLDS, RFMS, DLOS, and Schools Portal will become more efficient.	Final Acceptance interviews with customers.	Immediately after upon conclusion of the task.
Financial Aid Professional will have a reduced number of username and passwords needed to access NSLDS, RFMS, DLOS, and Schools Portal.	One username and password for accessing multiple systems.	Immediately upon conclusion of the task.
Customers may have authorized access to more SFA systems that are integrated into the Authentication gateway in the future.	Number of systems integrated into the Authentication gateway after completion.	A long-term benefit.
Customers will have a greater trust in systems with a stronger security framework.	Final Acceptance interviews with customers.	Immediately upon conclusion of the task.
Students will have an easier time accessing information from Financial Aid Professionals.	Final Acceptance interviews with customers.	An indirect benefit from FAP users increase in productivity.
Assumptions		
The Single Sign-on Implementation will be successful and reusable for future systems.		

Increase Employee Satisfaction

Quantified/Qualitative Benefit	How will benefit be measured/realized?	When will benefit be realized?
Employees will have happier customers.	Final Acceptance interviews with customers.	Immediately upon conclusion of the task.
Employees will have a standard authentication framework to build from.	How many systems will be integrated with the Authentication Gateway.	Long-term benefit.
SFA systems will present a unified means of accessing information, thereby increasing their reputation of a reputable financial technology leader.	How many systems will be integrated with the Authentication Gateway.	Long-term benefit.
Assumptions		
The Single Sign-on Implementation will be successful and reusable for future systems.		

OTHER COST BENEFITS: *(Include Avoidance of Future Costs, Reduction to any Non- SFA entity's costs and Other Unquantified Benefits)*

Quantified/Qualitative Benefit	How will benefit be measured/realized?	When will benefit be realized?
While having a standard Authentication Framework, costs for developing authentication mechanisms will be reduced.	How many new systems will be integrated with the Authentication Gateway.	Long-Term Benefit.
By working together, System Owners will start thinking in an enterprise mindset.	Number of systems integrated with the Authentication Gateway.	Immediately upon conclusion of the task.
Assumptions		
The Single Sign-on Implementation will be successful and reusable for future systems.		

Estimated overall dollar amount of all benefits listed above.

Quantified Benefits					
BY	**BY+1**	**BY+2**	**BY+3**	**BY+4**	**Total**
Assumptions					

Costs

Provide costs, including those to implement the initiative and the costs to support it over its useful life.

COSTS						
	BY	**BY+1**	**BY+2**	**BY+3**	**BY+4**	**Total**
Development	$1,000,000					$1,000,000
Operations						
VDC Service*	$663,000	$663,000	$663,000			$1,979,000
Prod. Proc						
Key Pers.						
Ad Hoc						
Sys. Maint.						
Telecom.						
Data Center						
Sub. Ops						
Total						
Assumptions						
* Based on cost estimate from the CSC VDC account team **VDC cost estimate includes Operations, Software Licensing and Maintenance.**						

Total Cost of Ownership

What is the level of required enhancement after implementation?

Depending on the solution chosen, the required level of enhancement will vary. The final solution will be scalable for integration of additional systems, which will incur future costs.

What is the life span of this initiative?

The longevity of the solution will depend on the usability of the solution with future technologies.

Alternatives

Discuss what could be done in place in this initiative and describe the consequences of each alternative.

Alternative	Consequence
Remain as-is	As more systems are developed, FAP customers will have to remember more usernames and passwords.
Non-technology solution	None
Enhance an existing system	DLOS has a customized EDS credentials passing solution. If this were enhanced to include multiple systems, all usernames and passwords would have to be synchronized manually throughout the systems in order for the implementation to be successful. Administrative management of user accounts and passwords would have to be changed manually throughout the all systems.
Implement on a smaller scale	A major factor for success is the ability to make the end goal attainable. This business case focuses on three systems whose architectures that accurately represent the overall SFA systems. These systems included RFMS, DLOS, and NSLDS. The Schools Portal will be integrated to make sure that the FAP's initial gateway could serve as the connector between these disparate systems. If a smaller scale is implemented (one system), then the implementation wouldn't be an accurate representation of proof-of-concept for the entire SFA enterprise.
Other	

Risks

Risk	Description of Risk	Mitigation Strategy
Financial	Project takes longer than expected, increasing labor costs	Require contractors to have well-defined project plan and clear scope. Use a fixed-price bid format.
Technology	Interfaces to legacy systems inhibit Single Sign-On functionality	Consider Directory Services or Password Synchonization as an alternative approach.
Scope	Try to solve all security problems at once	Focus on Single Sign-On for Schools Portal. We are defining Authentication and Authorization services for 4 systems only.
Management	School Channels and stakeholders (NSLDS, RFMS, DLOS) fail to buy into security improvements	Single Sign-On authentication must be understood as a strategic program, supporting all business units.
Exposure	Security Policy for SFA Authentication and Directory Services does not include Single Sign-On	Coordination with Modernization Partner for unified Authentication architecture for SFA Web Portal services.

Acquisition Strategy

Sources (Indicate the prospective sources of supplies or services that can meet the need of this project. List the most likely offerors for the requirement, and/or the manufacturer and model of the equipment that will most likely be offered).

The Modernization Partner has priced implementation of the Single Sign-On solution based upon responses to a Request For Information (RFI) compiled from 6 vendors.

Virtual Data Center contractor has priced Web Portal Authentication Services (Single Sign-On) as a fixed price Acquisition and Operations cost. This fixed price is based upon a result from RFI responses.

Competition (Describe how competition will be sought, promoted, and sustained throughout the course of the acquisition, including any performance requirements that will be required).

As part of the SSO RFI solicitation, 6 security software vendors have responded to the Schools Portal Web Authentication requirements. This solicitation was part of an IRB funded tasks which included the following tasks -

Documentation of the School Portal SSO requirements from an enterprise perspective in a format that can be used for an authentication gateway design project.

Analysis of the requirements, has created the solution design with costs for Single Sign-on for the School Web Portal for designated back-end systems to ensure appropriate access by authorized users with minimal difficulty;

Contract Considerations (For each contract contemplated, discuss contract type selection; use of multiyear contracting, options, or other special contracting methods, ex: performance-based).

Task Orders will be written to the Schedules and Milestones outlined in this Business Case as a deliverable. This contract will be delivered as a firm fixed price task to implement the baseline Single Sign-On architecture.

Schedule/Milestones (including acquisition cycle)

#	Milestone	Start Date	End Date
1	Establish Implementation Strategy and Stakeholder Buy-In	10/1/01	10/12/01
2	Schools Portal Single Sign-On Design Architecture including Directory Services Requirements	10/15/01	11/30/01
3	Hardware/Software Acquisition at Virtual Data Center	11/30/01	12/31/01
4	Installation of Baseline Schools Portal Authentication Gateway	1/01/02	1/18/02
5	Script Development for Login to Application Systems	1/21/02	2/28/02
6	Recruitment and Training of Acceptance Test Users	3/01/02	3/15/01
7	Establish Test Criteria and Procedures	3/18/02	3/29/02
8	User Acceptance Testing and Evaluation	4/01/02	4/30/02
9	Develop Production Roll Out and Training Strategy	4/01/02	4/30/02
10	Maintenance and Recovery Procedure	5/01/02	5/10/02
11	Roll Out and Training to 13,000 FAP Users	5/13/02	6/07/02
12	Final Acceptance and Evaluation	6/10/02	6/28/02